

Amendments to the claims:

Claims 1-7: (canceled)

8. (withdrawn) An apparatus for employing the method of one of the foregoing claims, characterized in that

- an extruder nozzle (2) for forming the strands (3, 4), three deflection rollers (5, 6, 7) for guiding the strands (3, 4), two contact-pressure rollers (9, 10) for applying the strands (3, 4) to the stack, and
- at least one pressure roller (13, 14) for applying an electrode paste (12), and an empty tube (11) for centering the hollow-cylindrical stack are present.

9. (new) A method for producing a piezoelectric actuator (8) with a multilayer structure of layers of a piezoelectric sheet (3, 4), and with inner electrodes disposed between them, comprising the steps of:

forming two individual layers of two continuous strands (3, 4) of the piezoelectric sheet;

winding the two strands (3, 4) over one another in the form of a double helix to form a hollow-cylindrical stack, thereby enclosing an inner electrode between them;

pressing each of the two strands (3, 4) in a region of an overlay on the already-wound stack, against a stack with a respective contact-pressure roller (9, 10).

10. (new) The method according to claim 9, further comprising the step of guiding the two strands (3, 5) over deflection rollers (5, 6, 7) in such a way that the overlays of the two strands (3, 4) on the already-wound stack are offset from one another by a predetermined angular amount.

11. (new) The method according to claim 10, wherein the predetermined amount is approximately 150°.

12. (new) The method according to claim 9, further comprising the step of providing the two strands (3, 4), while being guided over the deflection rollers (5, 6), with an electrode paste (12) by means of at least one further roller (13, 14).

13. (new) The method according to claim 10, further comprising the step of providing the two strands with an electrode paste (12) by means of at least one further roller (13, 14).

14. (new) The method according to claim 9, wherein the strands (3, 4) have a trapezoidal cross section.

15. (new) The method according to claim 12, wherein the strands (3, 4) have a trapezoidal cross section.

16. (new) The method according to claim 9, further comprising the steps of:

extruding the two strands (3, 4) from a piezoelectric compound by means of an extruder nozzle (2);

winding the two strands (3, 4) around an empty tube (11);

cutting the strands (3, 4) off after the two strands have reached a predetermined length;

unbinding the stack in a thermal process; and

removing the empty tube (11) by destruction.